

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

WHAT IS CLAIMED IS:

1 1. A display, comprising:
2 a display lightguide, on which a shape of a display character is
3 formed in three dimensions;
4 a light source, emitting a light toward the display lightguide; and
5 a light collection portion, provided between the light source and the
6 display lightguide, and having a light reflection face formed like a parabolic
7 face which employs a straight line perpendicular to a light receiving face of the
8 display lightguide as an axis thereof.

1 2. The display as set forth in claim 1, further comprising a light diffusion
2 member, provided between the display lightguide and the light collection
3 portion.

1 3. The display as set forth in claim 1, further comprising a blocking
2 member, placed to a front side of the display lightguide, and having a hole
3 portion which is formed so as to correspond to the shape of the display
4 character.

1 4. The display as set forth in claim 1, wherein the light collection portion
2 includes a light collection lightguide; and
3 wherein an outer side face of the light collection lightguide is formed
4 like the parabolic face as the light reflection face.

1 5. The display as set forth in claim 1, wherein the light collection portion
2 having a hole or a groove provided therein; and
3 wherein an inner side face of the hole or the groove formed in the
4 light collection portion is formed like the parabolic face as the light reflection
5 face.

1 6. The display as set forth in claim 1, wherein a display segment is
2 formed on the display lightguide as the display character, and
3 wherein the light reflection face is formed by moving a parabola,
4 which is included in a section of the parabolic face, in a direction perpendicular
5 to a face formed by the parabola and the axis without changing a shape of the
6 parabola.

1 7. The display as set forth in claim 1, wherein a display segment is
2 formed on the display lightguide as the display character, and
3 wherein the light reflection face is formed by moving a parabola,
4 which is included in a section of the parabolic face, in a direction perpendicular
5 to a face formed by the parabola and the axis while continuously changing a
6 gradient of the parabola, so that a shape drawn by each of ends of the
7 parabola during the parabola is moved almost coincides with a shape of each
8 of longer-side ends of the display segment.

1 8. The display as set forth in claim 1, wherein a display segment is
2 formed on the display lightguide as the display character, and
3 wherein the light reflection face is formed by moving a parabola,

4 which is included in a section of the parabolic face, in a direction perpendicular
5 to a face formed by the parabola and the axis while intermittently changing a
6 gradient of the parabola, so that a shape drawn by each of ends of the
7 parabola during the parabola is moved almost coincides with a shape of each
8 of longer-side ends of the segment.

1 9. The display as set forth in claim 1, further comprising a substrate on
2 which the light source is provided,
3 wherein the light collection portion is fixed on the substrate.

1 10. The display as set forth in claim 1, wherein a plurality of the light
2 sources is formed; and

3 wherein a plurality of the display characters are respectively formed
4 so as to correspond to the light sources;

5 wherein the light collection portion has a light blocking member which
6 has a plurality of through holes penetrating through from a rear face thereof to
7 a front face thereof, the through holes corresponding to the display characters
8 respectively; and

9 wherein the light reflection face is provided in each of the through
10 holes.

1 11. A light collection member for collecting an irradiated light from a light
2 source, and irradiating the corrected light to a display face so that a segment
3 portion of the display face is illuminated, comprising:

4 a light reflection face, shaped like a parabolic face having a section

5 which includes a parabola,
6 wherein the parabolic face of the light reflection face is formed by
7 moving the parabola in a direction perpendicular to a face formed by the
8 parabola and an axis thereof without changing a shape of the parabola.

1 12. A light collection member for collecting an irradiated light from a light
2 source, and irradiating the corrected light to a display face so that a segment
3 portion of the display face is illuminated, comprising:

4 a light reflection face, shaped like a parabolic face having a section
5 which includes a parabola,

6 wherein the parabolic face of the light reflection face is formed by
7 moving the parabola in a direction perpendicular to a face formed by the
8 parabola and an axis thereof while continuously changing a gradient of the
9 parabola, so that a shape drawn by each of ends of the parabola during the
10 parabola is moved almost coincides with a shape of each of longer-side ends
11 of the segment portion.

1 13. A light collection member for collecting an irradiated light from a light
2 source, and irradiating the corrected light to a display face so that a segment
3 portion of the display face is illuminated, comprising:

4 a light reflection face, shaped like a parabolic face having a section
5 which includes a parabola,

6 wherein the parabolic face of the light reflection face is formed by
7 moving the parabola in a direction perpendicular to a face formed by the
8 parabola and an axis thereof while intermittently changing a gradient of the

9 parabola, so that a shape drawn by each of ends of the parabola during the
10 parabola is moved almost coincides with a shape of each of longer-side ends
11 of the segment portion.

1 14. A light diffusion member for diffusing a light to be irradiated into a
2 display member, the display member having a plurality of display characters
3 which are illuminated by the light, comprising:

4 a plurality of light diffusion portions, disposed so as to correspond to
5 the display characters; and

6 a connection portion, connecting the diffusion portions to one another.

1 15. The light diffusion member as set forth in claim 14, wherein when at
2 least four display segments are placed as the display characters on four sides
3 surrounding a space, at least four diffusion portions is placed on four sides
4 surrounding a space so as to respectively correspond to the four display
5 segments; and

6 wherein the connection portion is formed so as to extend from a
7 nearly center of the space surrounded by the diffusion portions to each of the
8 diffusion portions.

1 16. The light diffusion member as set forth in claim 15, wherein the
2 connection portion has a plurality of extending parts respectively extending
3 from the nearly center to the diffusion portions; and

4 wherein the extending parts have differently curves respectively.
5

1 17. The light diffusion member as set forth in claim 14, wherein the
2 display member has a plurality of display lightguides, each display lightguide
3 having the display character formed in three dimensions; and
4 wherein the light diffusion member is integrally formed with the
5 display lightguides.

1 18. The light diffusion member as set forth in claim 17, wherein the light
2 diffusion member is integrally formed with the display lightguides by injecting a
3 forming agent for forming the display lightguides into a mold for the display
4 lightguides, during a state in which the light diffusion member is inserted into
5 the mold.

1 19. The light diffusion member as set forth in claim 17, wherein the light
2 diffusion member is integrally formed with the display lightguides by two-color
3 forming using a forming agent for forming the light diffusion member and a
4 forming agent for forming the display lightguides.

1 20. A light diffusion member for diffusing a light to be irradiated into a
2 display member, the display member having a plurality of display characters
3 which are illuminated by the light, comprising:
4 a light blocking portion provided at a position corresponding to a
5 boundary portion between adjacent display characters.

1 21. The light diffusion member as set forth in claim 20, wherein the light
2 blocking portion is either a concave portion or a convex portion formed on the

3 light diffusion member.

1 22. The light diffusion member as set forth in claim 20, wherein the
2 display member has a plurality of display lightguides, each display lightguide
3 having the display character formed in three dimensions; and
4 wherein the light diffusion member is integrally formed with the
5 display lightguides.

1 23. The light diffusion member as set forth in claim 22, wherein the light
2 diffusion member is integrally formed with the display lightguides by injecting a
3 forming agent for forming the display lightguides into a mold for the display
4 lightguides, during a state in which the light diffusion member is inserted into
5 the mold.

1 24. The light diffusion member as set forth in claim 22, wherein the light
2 diffusion member is integrally formed with the display lightguides by two-color
3 forming using a forming agent for forming the light diffusion member and a
4 forming agent for forming the display lightguides.

1 25. A display comprising:
2 a light source, irradiating a light;
3 a light diffusion member, having a plurality of diffusion portions which
4 diffuse the light from the light source, and having a curved connection portion
5 which connects the diffusion portions; and
6 a display portion, having a plurality of display characters to be

7 illuminated by the diffused light,
8 wherein the diffusion portions are placed so as to correspond to the
9 display characters respectively.

1 26. A display comprising:
2 a light source, irradiating a light;
3 a light diffusion member, diffusing the light from the light source; and
4 a display portion, having a plurality of display characters to be
5 illuminated by the diffused light,
6 wherein a light blocking portion is formed on the light diffusion
7 member so as to correspond to a boundary portion between adjacent display
8 characters.

1 27. The display as set forth in claim 26, wherein the light blocking portion
2 is either a concave portion or a convex portion formed on the light diffusion
3 member.

1 28. A display member, comprising:
2 a display lightguide, provided with a convex portion having a top face
3 shaped into a display character,
4 wherein a light diffusion processing is performed on at least one of
5 the top face and a side face of the convex portion.

1 29. A display member, comprising:
2 a display lightguide, provided with a convex portion having a top face

3 shaped into a display character,
4 wherein a side face of the convex portion is tapered off toward the top
5 face of the convex portion.

1 30. A display member, comprising:
2 a display lightguide, provided with a convex portion having a top face
3 shaped into a display character,
4 wherein a light diffusion processing is performed on a bottom face
5 opposed to the top face of the convex portion in the display lightguide.

1 31. A display member, comprising:
2 a display lightguide, provided with a convex portion having a top face
3 shaped into a display character in three dimensions,
4 wherein the convex portion is provided in a concave portion formed
5 on the display member.

1 32. A display member, comprising:
2 a plurality of display lightguides, respectively provided with convex
3 portions, each convex portion having a top face shaped into a display
4 character in three dimensions; and
5 a dark member, connecting the display lightguides to one another.

1 33. A display member, comprising:
2 a display lightguide, provided with a convex portion having a top face
3 shaped into a display character in three dimensions,

4 wherein at least a part of the convex portion is comprised of a colored
5 part.

1 34. A display comprising:
2 a display member, including a display lightguide which is provided
3 with a convex portion having a top face shaped into a display character; and
4 a light source, emitting a light to the display member,
5 wherein a light diffusion processing is performed on at least one of
6 the top face and a side face of the convex portion.